

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEW JERSEY**

CCP SYSTEMS AG,

Plaintiff,

v.

SAMSUNG ELECTRONICS CORP., LTD.,  
SAMSUNG ELECTRONICS AMERICA, INC.,  
SAMSUNG NETWORKS, INC.  
and IBM CORPORATION,

Defendants.

Civil Action No:

Jury Trial Demanded

**VERIFIED COMPLAINT FOR COPYRIGHT AND PATENT INFRINGEMENT**

CCP Systems AG (“CCP”) for its Verified Complaint against Samsung Electronics Corp., Ltd. (“Samsung ECL”), Samsung Electronics America, Inc. (“Samsung America”), Samsung Networks, Inc. (“Samsung Networks”), and IBM Corp. (“IBM”) (collectively, “Defendants”), states as follows:

**PARTIES**

1. CCP is a corporation organized and existing under the laws of Germany with its principal place of business at Stammheimer Str. 35, 70435 Stuttgart, Germany.
2. Upon information and belief, Defendant Samsung ECL is a corporation organized and existing under the laws of South Korea, with its principal place of business at Samsung Main Bldg. 250, 2-Ga, Taepyung-Ro Joong-Gu, Seoul, Korea, 100742.
3. Upon information and belief, Defendant Samsung America is a corporation organized and existing under the laws of the State of New York, with its principal place of business at 105 Challenger Road, Ridgefield Park, New Jersey, 07660.

4. Upon information and belief, Defendant Samsung Networks is a corporation organized and existing under the laws of South Korea, with its principal place of business at 9th Floor, Asem Tower, Samseong 1(il)-Dong , Gangnam-Gu Seoul, Korea, 135798.

5. Upon information and belief, Defendant IBM is a corporation organized and existing under the laws of the State of New York, with its principal place of business at 1 New Orchard Road, Armonk, NY 10504.

### **JURISDICTION AND VENUE**

6. This is an action for copyright infringement under the Copyright Act, 17 U.S.C. § 106, and for patent infringement under the Patent Act, 35 U.S.C. §§ 271 and 281-285.

7. This Court has subject matter jurisdiction over the Federal law claims in this case pursuant to 28 U.S.C. §§ 1331 and 1338(a)-(b).

8. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391 and 1400 because the Defendants may be found in this District, do substantial business in this District, and have engaged in acts of copyright and patent infringement in this District.

9. This Court has personal jurisdiction over Defendant Samsung America because New Jersey is Samsung America's principal place of business.

10. This Court has personal jurisdiction over Defendant IBM by virtue of IBM's transacting business within this State, and because of its systematic and continuous contacts with residents of this State.

11. This Court has personal jurisdiction over Defendants Samsung ECL and Samsung Networks by reason of those Defendants transacting business within this State and committing wrongful acts within this State, and by virtue of their systematic contacts with residents of this State.

12. In particular, this Court has personal jurisdiction over Defendants Samsung ECL and Samsung Networks because they operate and maintain interactive websites which can be accessed, and, upon information and belief, have been accessed, by residents of this State.

### **FACTS COMMON TO ALL CLAIMS**

#### **A. CCP's Software Products**

13. CCP designs, develops, manufactures, sells and distributes software for use in connection with computer printers and other computer-related devices.

14. In particular, and relevant to this action, CCP developed software called "JScribe®," which is an open application and communication platform for servers, workstations, multi-function printers, and standard printers, allowing those devices to exchange information proactively in every direction.

15. The JScribe software has been the basis for many additional programs and variations. CCP has designed and developed those additional programs and variations into several applications, including the following:

a. "JScribe Core," which is the version of JScribe for embedding on individual printers, multi-function printers, and other devices.

b. "JScribe Mobile Print Solution" ("JMPS"), which is a JScribe-based client/server solution for mobile printing in company and public networks.

c. "JScribe Software Developer Kit" ("JSDK"), which is a JScribe-based integrated development environment for the development of JScribe applications.

d. "JISS OpenPower," which stands for "JScribe Intelligence Server Solution OpenPower," which is a server-based solution for tracking print and managing related costs, implemented on Linux/Unix platforms according to requirements defined by IBM.

f. “JTalk” is a JScribe-based tool for deploying JScribe applications to printers and other devices with JScribe Core or the JScribe Application Server Solution (“JASS”) embedded.

g. “KYAOC” is a custom derivative of JMPS developed by CCP for a specific client, the State of Kentucky Administrative Office of Courts.

(The JISS OpenPower, JMPS, JSDK, JScribe Core, JTalk and KYAOC software are referenced collectively throughout this Complaint as the “CCP Software.”)

**B. The Limited Licenses Granted to Defendants by CCP**

16. In 2004, CCP signed a contract with IBM Deutschland GmbH (“IBM Germany”) (the “IBM Germany Agreement”), under which, *inter alia*, (a) CCP would license and deliver copies of JScribe Core to IBM Germany, and (b) IBM Germany then would sublicense and deliver copies of the JScribe Core software to its customers, solely to be bundled with other software in the customer’s “Firmware” and embedded into the customer’s device, such as a printer. (“Firmware” is a microprogram stored in ROM [read-only-memory], designed to implement a function that had previously been provided in software.) Under the IBM Germany Agreement, no other uses of the JScribe Core software were permitted by IBM Germany or its customers.

17. Upon information and belief, Samsung ECL, under a written sublicense agreement with IBM Korea (IBM Germany’s Korean sister company, which, upon information and belief, has a sublicense arrangement with IBM Germany), embedded the JScribe Core software with other software of Samsung ECL, creating “Firmware,” which it would then in turn embed directly into a Samsung-brand device, such as a printer.

18. According to the IBM Germany Agreement, as an IBM customer with an authorized sublicense, Samsung ECL, for itself and through its affiliates, such as Samsung America, could distribute devices containing the Firmware (which included the JScribe Core) to consumers in

the United States and elsewhere. Samsung would then pay a royalty to IBM Germany (or its sister company in Korea), who would then in turn pay a royalty to CCP for each device sold that incorporated the JScribe Core software.

19. The IBM Germany Agreement did not provide that an IBM customer, such as Samsung ECL, could distribute the JScribe Core software (or any other CCP Software) apart from a device, or to make any CCP Software publicly available online.

**C. The IBM Agreement is Terminated**

20. The IBM Germany Agreement, as amended, allowed CCP to terminate that agreement without further notice if certain events transpired. In particular, the IBM Germany Agreement allowed CCP to terminate the Agreement if CCP and IBM Germany could not reach agreement as to CCP's proposed business relationship with a competitor of IBM Germany. Since CCP and IBM Germany were not able to reach resolution on a proposed relationship between CCP and Samsung (a competitor of IBM Germany), CCP, on May 25, 2009 (the "Termination Date"), sent notice to IBM Germany that as of the Termination Date, CCP was terminating the IBM Germany Agreement and the license to the CCP Software granted therein.

21. Samsung ECL acknowledged the termination of the IBM Germany Agreement in an email dated July 15, 2009. In that email, Mr. Chin Yoon, the Vice President of Samsung ECL's Solution Business Group, instructed Samsung ECL personnel to refrain from marketing devices incorporating CCP Software, and notified them that the agreement under which the CCP Software was supplied to Samsung ECL had been cancelled.

22. Although CCP terminated the IBM Germany Agreement and the license therein to CCP Software as of the Termination Date of May 25, 2009, the Defendants, without CCP's consent,

have continued to reproduce and publicly distribute the CCP software, both as stand-alone software (bundled into Firmware) and in devices.

23. In addition, without CCP's consent, Samsung ECL, Samsung Networks, and Samsung America have placed the CCP Software, including the Firmware incorporating JScribe Core software, online at Samsung Network's website "downloadcenter.samsung.com" and "samsungprinter.info," available for free to the public.

**COUNT I - COPYRIGHT INFRINGEMENT: DEFENDANT SAMSUNG NETWORKS**

24. CCP incorporates the allegations of paragraphs 1 through 23 above as though fully set forth herein.

25. Samsung Networks owns and operates the website samsung.com. The samsung.com website has many sub-domains, including downloadcenter.samsung.com (the "Download Center Website").

26. Any United States resident with an Internet connection can access the Download Center Website, so long as that person knows the URLs for the code files on that website; no password or other security key is required to access it.

27. Samsung Networks has reproduced, publicly displayed, and, upon information and belief, publicly distributed the JScribe Core software on the Download Center Website, as part of the Firmware, and this conduct continues as of the date this Complaint was filed.

28. Anyone, including New Jersey residents, can download the Firmware, incorporating the JScribe Core software, for free, from the Download Center Website, if the person has the URL links to the Firmware files on the Download Center Website.

29. CCP did not authorize Samsung Networks or anyone else to make its JScribe Core software publicly available online.

30. CCP developed the JScribe Core software over the course of ten years, and that software program is an original work of authorship.

31. CCP has registered claims to copyrights in four versions of the JScribe Core software (JScribe Core v. 4.0, JScribe Core v. 4.1, JScribe Core v. 4.2, and JScribe Core v. 4.3) with the United States Copyright Office. The Copyright Office has assigned registration number TXu-1-610-843 to the JScribe Core v 4.0 claim to copyright, registration number TXu-1-610-827 to the JScribe Core v 4.1 claim to copyright, registration number TXu-1-610-915 to the JScribe Core v 4.2 claim to copyright, and registration number TXu-1-610-918 to the JScribe Core v 4.3 claim to copyright. These four versions will be referenced collectively throughout this Complaint as "JScribe Core."

32. By reproducing and publicly displaying the JScribe Core software at the Download Center Website, and by publicly distributing it on that site, Samsung Networks has directly infringed CCP copyrights in the JScribe Core software.

33. Samsung Networks knew that i) making the JScribe Core software available online, apart from devices, was not authorized under any agreement with CCP; and ii) in any event, as of May 25, 2009, all licenses to the JScribe Core software had terminated. Therefore, Samsung Networks' making the JScribe Core software available online for free download constitutes a willful infringement of CCP's copyrights.

34. CCP has suffered irreparable harm because of Samsung Networks' infringement of its copyrights in the JScribe Core software, and will continue to suffer irreparable harm in the future unless the Defendants are enjoined from infringing CCP's copyrights in the JScribe Core software.

35. CCP has suffered damages as a result of Samsung Networks' infringing conduct.

WHEREFORE, CCP requests the following relief against Samsung Networks:

- a) an award of compensatory damages and disgorgement of any profits of Samsung Networks attributable to the infringement, along with prejudgment interests and costs;
- b) a preliminary and permanent injunction prohibiting Samsung Networks and its officers, agents, divisions, affiliates, subsidiaries, employees, and representatives, and all those controlled by or acting in concert with or in privity with any of them, from infringing CCP's copyrights in the JScribe Core software, specifically prohibiting Samsung Networks from i) making the JScribe Core software available on the Download Center Website, ii) displaying or distributing any links to the Download Center Website; and iii) otherwise reproducing, displaying, distributing or preparing derivatives of the CCP Software;
- c) a Court order requiring Samsung Networks to impound any infringing articles in its possession, custody, or control; and
- d) such other relief as this Court deems just and proper.

**COUNT II - CONTRIBUTORY AND VICARIOUS COPYRIGHT INFRINGEMENT:  
DEFENDANTS SAMSUNG ECL AND SAMSUNG AMERICA**

36. CCP incorporates the allegations of paragraphs 1 through 35 above as though fully set forth herein.

37. Samsung ECL owns and operates a website at the URL [samsungelectronics.com](http://samsungelectronics.com). That website has many sub-domains, including the sub-domain [ecms.samsungelectronics.com](http://ecms.samsungelectronics.com) (the "Partner Site").



38. Upon information and belief, Samsung ECL operates the Partner Site for the benefit of its dealers, developers and distributors worldwide, including in New Jersey.

39. To access content on the Partner Site, one must be registered with Samsung ECL, and Samsung ECL must approve, each application for access to the Partner Site.

40. Both before and after May 25, 2009, Samsung ECL made a spreadsheet available on the Partner Site. That spreadsheet contains information about various Samsung ECL products, including the Firmware that incorporates CCP's JScribe Core software.

41. That spreadsheet contains active hyperlinks to the Download Center Website. When one clicks on a hyperlink in the spreadsheet, one is taken directly to a ZIP file on the Download Center Website, where one can freely access and download the Firmware containing CCP's JScribe Core software.

42. The spreadsheet described in paragraphs 40 and 41 is downloadable and transferable. That is, anyone accessing that spreadsheet on the Partner Site can save that spreadsheet to his computer, copy it, attach it to an email, forward it to others, etc.

43. Samsung America controlled the website [samsungprinter.info](http://samsungprinter.info) (the "Samsung Printer Website"). The Samsung Printer Website was open to the public.

44. Samsung America placed a spreadsheet similar to the one described in paragraphs 41 and 42 above on the Samsung Printer Website, containing links to the code files on the Download Center Website.

45. No password or other security information was required to access the code files on the Download Center Website, so anyone with this spreadsheet could freely access the code files in the Download Center Website.

46. The unauthorized availability of JScribe Core on the websites described above materially impacts the market for this software and CCP's ability to exploit its product. As an example of the effect on the market for the Firmware, CCP discovered an inquiry on a developer chat website, "Fix Ya," attached as Exhibit A. In that post, a web user asked whether anyone knew where to find the Firmware for a Samsung-brand printer with JScribe 4.0 embedded. Another user replied, identifying himself as a developer, and stated that if the user could not acquire the Firmware on the samsung.com website, he would get the Firmware from the Partner Site and send it to him. This example illustrates how Samsung ECL's, Samsung America's, and Samsung Networks' posting of the Firmware code files online has resulted in uncontrolled distribution of CCP's software products.

47. By posting the spreadsheet containing links to the Download Center Website online at the Partner Site and the Samsung Printer Website, Samsung ECL and Samsung America were aware of and supervised, facilitated and induced the direct infringement by Samsung Networks alleged in Count I. Further, by providing the means by which that infringement can occur, *inter alia*, Samsung ECL and Samsung America substantially participated in Samsung Networks' direct infringement. Accordingly, Samsung ECL and Samsung America contributorily infringed CCP's copyrights in the JScribe Core software.

48. In addition, by facilitating Samsung Networks' direct infringement, Samsung ECL and Samsung America garner goodwill with their partners, developers and distributors by making various products available on the Download Center Website and the Samsung Printer Website, and they also gain financial benefit by avoiding paying a royalty for use of the CCP Software. Accordingly, Samsung ECL and Samsung America have vicariously infringed CCP's copyrights in the JScribe Core software through their supervision and control of Samsung Networks.

49. CCP has suffered damages as a result of the infringing conduct of Samsung ECL and Samsung America.

50. CCP has suffered irreparable harm because of Samsung ECL's and Samsung America's contributory and vicarious infringement of its copyrights in the JScribe Core software, and will continue to suffer irreparable harm in the future unless Samsung ECL and Samsung America are enjoined from infringing CCP's copyrights in the JScribe Core software.

WHEREFORE, CCP requests the following relief against Samsung ECL and Samsung America:

- a) an award of compensatory damages and disgorgement of any profits of Samsung ECL and Samsung America attributable to the infringement, along with prejudgment interests and costs;
- b) a preliminary and permanent injunction prohibiting Samsung ECL, Samsung America, and their officers, agents, divisions, affiliates, subsidiaries, employees, and representatives, and all those controlled by or acting in concert with or in privity with any of them from infringing CCP's copyrights in the JScribe Core software, specifically, prohibiting Samsung ECL and Samsung America from i) making the JScribe Core software available on the Download Center Website, ii) displaying or distributing any links to the Download Center Website; and iii) otherwise reproducing, displaying, distributing or preparing derivatives of the CCP Software;
- c) a permanent injunction prohibiting Samsung ECL, Samsung America, and their officers, agents, divisions, affiliates, subsidiaries, employees, and representatives, and

all those controlled by or acting in concert with or in privity with any of them from infringing CCP's copyrights in the JScribe Core software, specifically, prohibiting Samsung ECL and Samsung America from i) making links to the CCP Software on the Download Center Website available on other websites such as the Samsung Printer Website, and ii) otherwise reproducing, displaying, distributing or preparing derivatives of the CCP Software;

- d) a Court order requiring Samsung ECL and Samsung America to impound any infringing articles in their possession, custody, or control; and
- e) such other relief as this Court deems just and proper.

**COUNT III - COPYRIGHT INFRINGEMENT (DIRECT, CONTRIBUTORY AND VICARIOUS): DEFENDANT SAMSUNG AMERICA**

51. CCP incorporates the allegations of paragraphs 1 through 50 as though fully set forth herein.

52. CCP has registered a claim to copyright in the JMPS software with the United States Copyright Office. The Copyright Office has assigned registration number TXu-1-610-843 to the JMPS claim to copyright.

53. CCP has registered a claim to copyright in the JSDK software with the United States Copyright Office. The Copyright Office has assigned registration number TXu-1-610-846 to the JSDK claim to copyright.

54. CCP has registered a claim to copyright in the JTalk software with the United States Copyright Office. The Copyright Office has assigned registration number TXu-1-610-862 to the JMPS claim to copyright.

55. CCP has registered a claim to copyright in the KYAOC software with the United States Copyright Office. The Copyright Office has assigned registration number TXu-1-610-844 to the JSDK claim to copyright.

56. Upon knowledge and belief, Samsung America placed copies of the CCP Software, including JScribe Core, JMPS, JSDK, JTalk and KYAOC, on the Samsung Printer Website, available for free download. In particular, Samsung America placed source code files for KYAOC on the Samsung Printer Website without authorization.

57. In addition, the Samsung Printer Website contained files with detailed instructions for how to use the CCP Software found on that website to install CCP Software onto hardware and other devices. These detailed instructions facilitated and encouraged unauthorized reproduction of the CCP Software by third parties, for which Samsung America garnered profit, thus, making those instructions available on the Samsung Printer Website constitutes contributory and vicarious infringement.

58. CCP never consented to or authorized the reproduction and distribution of its software products on the Samsung Printer Website.

59. CCP has suffered damages as a result of this infringing conduct.

60. CCP has suffered irreparable harm because of Samsung America's infringement of its copyright in the CCP Software, and will continue to suffer irreparable harm in the future unless Samsung America are enjoined from infringing CCP's copyrights in the CCP Software.

WHEREFORE, CCP requests the following relief against Samsung America:

- a) an award of compensatory damages and disgorgement of any profits of the Defendants attributable to the infringement, along with prejudgment interests and costs;

- b) a permanent injunction prohibiting Defendant Samsung America and their officers, agents, divisions, affiliates, subsidiaries, employees, and representatives, and all those controlled by or acting in concert with or in privity with any of them, from infringing CCP's copyrights in the CCP Software, specifically, by prohibiting Defendants from reproducing and distributing the CCP Software on other websites, such as the Samsung Printer Website, and by otherwise reproducing, distributing, displaying or preparing derivatives of the CCP Software;
- c) a Court order requiring Samsung America to impound any infringing articles in its possession, custody, or control; and
- d) such other relief as this Court deems just and proper.

**COUNT IV - COPYRIGHT INFRINGEMENT: DEFENDANTS SAMSUNG ECL AND SAMSUNG AMERICA**

61. CCP incorporates the allegations of paragraphs 1 through 60 as though fully set forth herein.

62. Samsung ECL reproduced CCP Software, namely, the JScribe Core software, in the process of creating the Firmware. Although the parties' agreements contemplated distribution of the Firmware (and with it, the CCP software) only embedded within a printer or other device, Samsung ECL bundled the Firmware for independent distribution on portable media, such as CDs or external hard drives, as well as by email distribution in code files. This bundling involved reproduction of CCP's JScribe Core software.

63. Once bundled and uploaded to such portable media or prepared for email distribution, Samsung ECL distributed that Firmware (including the JScribe Core software) to customers in the United States, through its US affiliate Samsung America in New Jersey.

64. Samsung ECL and Samsung America distributed some Firmware to customers who had already purchased a device containing an earlier version of the JScribe Core software. This Complaint will refer to this delivery as a “field upgrade.”

65. Samsung ECL and Samsung America also distributed the Firmware to customers who had already purchased a device that did not contain any version of the JScribe Core software. This Complaint will refer to this delivery as a “field installation.”

66. With each “field installation” and “field upgrade,” Samsung ECL and Samsung America provided the customer with detailed instructions showing the customer how to install the Firmware onto an existing Samsung-brand device. These instructions effectively allow a customer to obtain the JScribe functionality without purchasing a JScribe-embedded device. Upon knowledge and belief, Samsung America and Samsung ECL have performed field installations and field upgrades for customers.

67. In addition to directly distributing the Firmware to customers, Samsung ECL and Samsung America made the Firmware (including the JScribe Core software) available on the Download Center Website and the Samsung Printer Website, along with detailed instructions showing a customer (or other web user) how to install the Firmware onto a Samsung-brand printer to achieve the functionality of a Samsung-brand printer with JScribe Core embedded.

68. CCP never consented to or authorized the reproduction and distribution of its software products as “field installations” and “field upgrades.”

69. CCP has suffered damages as a result of this infringing conduct.

70. CCP has suffered irreparable harm because of Samsung ECL's and Samsung America's infringement of its copyright in the JScribe Core software, and will continue to suffer irreparable harm in the future unless Samsung ECL and Samsung America are enjoined from infringing CCP's copyright in the JScribe Core software.

WHEREFORE, CCP requests the following relief against Samsung ECL and Samsung America:

- a) an award of compensatory damages and disgorgement of any profits of the Defendants attributable to the infringement, along with prejudgment interests and costs;
- b) a permanent injunction prohibiting Defendants Samsung ECL and Samsung America and their officers, agents, divisions, affiliates, subsidiaries, employees, and representatives, and all those controlled by or acting in concert with or in privity with any of them, from infringing CCP's copyrights in the JScribe Core software, specifically, by prohibiting these Defendants from reproducing and distributing the JScribe Core software via the "field installations" and "field upgrades" as described herein, and by otherwise reproducing, distributing, displaying or preparing derivatives of the CCP Software;
- c) a Court order requiring said Defendants to impound any infringing articles in their possession, custody, or control; and
- d) such other relief as this Court deems just and proper.



**COUNT V - COPYRIGHT INFRINGEMENT: DEFENDANT IBM**

71. CCP incorporates the allegations of paragraphs 1 through 70 above as though fully set forth herein.

72. CCP has registered a claim to copyright in the JISS OpenPower software with the United States Copyright Office. The Copyright Office has assigned registration number TXu-1-610-847 to the JISS OpenPower claim to copyright.

73. As noted above, CCP terminated the IBM Germany Agreement on May 25, 2009. Nevertheless, prior to May 25, 2009, and at least as early as December, 2006, the license to the JISS OpenPower software in the IBM Germany Agreement had expired by its own terms.

74. Upon information and belief, IBM has reproduced the JISS OpenPower in the process of selling servers and other devices, after December of 2006, and in any event after May 25, 2009. This reproduction of JISS OpenPower constitutes infringement of CCP's copyrights in the JISS OpenPower software.

75. Since December 2006, IBM has continued to market and, upon information and belief, sell products incorporating the JISS OpenPower software. For example, price lists and descriptions of products incorporating JISS OpenPower are available (at least as of August 7, 2009) on IBM's website. See Exhibit C.

76. Upon information and belief, IBM has publicly distributed the JISS OpenPower software in the United States, after December 2006. This public distribution of JISS OpenPower constitutes infringement of CCP's copyrights in the JISS OpenPower software.

77. CCP has suffered damages as a result of this infringing conduct.

78. CCP has suffered irreparable harm by IBM's infringement of CCP's copyrights in the JISS OpenPower software, and will continue to suffer irreparable harm in the future unless IBM is enjoined from infringing CCP's copyrights in that work.

WHEREFORE, CCP requests the following relief against IBM:

- a) an award of compensatory damages and disgorgement of any profits of IBM attributable to the infringement, along with prejudgment interests and costs;
- b) permanent injunctive relief prohibiting IBM and its officers, agents, divisions, affiliates, subsidiaries, employees, and representatives, and all those controlled by or acting in concert with or in privity with any of them, from infringing CCP's copyrights in the JISS OpenPower software, specifically, by prohibiting IBM from reproducing and distributing the JISS OpenPower software in devices, and by otherwise reproducing, distributing, displaying or preparing derivatives of the JISS OpenPower software;
- c) a Court order requiring IBM to impound any infringing articles in its possession, custody, or control; and
- d) such other relief as this Court deems just and proper.

**COUNT VI - PATENT INFRINGEMENT (U.S. PATENT NO. 6,684,789) AGAINST  
SAMSUNG AMERICA, SAMSUNG ECL, AND SAMSUNG NETWORKS**

79. CCP incorporates the allegations of paragraphs 1 through 78 above as though fully set forth herein.

80. On February 3, 2004, the United States Patent and Trademark Office (USPTO) duly and legally issued U.S. Patent No. 6,684,789 ("the '789 Patent") entitled "Method and System for the Transformation of Digital Print Data Streams and Corresponding Printer and Printer Server," was duly and legally issued to CCP, as assignee of inventor Thomas Krautter (a CCP employee). A copy of the '789 Patent is attached hereto as Exhibit B.

81. Samsung ECL, Samsung America, and Samsung Networks have been and are infringing, inducing infringement and/or contributing to infringement of the '789 Patent in this District, and throughout the United States, by making, selling, offering for sale, and/or importing infringing devices, software and other technology covered by one or more claims of the '789 Patent, including at least Samsung ECL's printer devices incorporating the JScribe Core technology.

82. As a direct and proximate result of the Defendants' infringement of the '789 Patent, CCP has suffered and continues to sustain monetary damages.

83. CCP has been and continues to be irreparably harmed by the Defendants' infringement of the '789 Patent. On information and belief, the Defendants will continue to infringe unless such infringement is enjoined by this Court.

WHEREFORE, CCP requests the following relief against the Defendants:

- a) an award of compensatory damages and disgorgement of any profits of the Defendants attributable to the infringement, along with prejudgment interests and costs;
- b) a permanent injunction prohibiting Defendants and their officers, agents, divisions, affiliates, subsidiaries, employees, and representatives, and all those controlled by or acting in concert with or in privity with any of them, from infringing, inducing the

infringement and/or contributing to the infringement of the '789 Patent pursuant to 35 U.S.C. §283; and

c) such other relief as this Court deems just and proper.

**DEMAND FOR JURY TRIAL**

Plaintiff CCP demands a jury trial on all issues.

Dated: August 25, 2009

Respectfully submitted,

SONNENSCHN NATH & ROSENTHAL LLP

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**VERIFICATION OF CHRISTOPH PICT UNDER 28 U.S.C. § 1746**

I have read the foregoing Complaint. I have personal knowledge of the truth of the allegations contained therein, except for those allegations made upon information and belief.. For those allegations made upon information and belief, I believe them to be true.

I declare, under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed the 25th day of August, 2009

A handwritten signature in black ink, appearing to be 'C. Picht', written over a horizontal line.

Christoph Picht

# EXHIBIT A

## Find a Solution

Search

[All Products](#) > [Samsung](#) > [SCX-6345N Printer](#) > [Troubleshooting](#)



### I need to know where obtain the firmware to

[mazalazar](#) on Jun 24, 2009

I need to know where obtain the firmware to SCX-6345 with Jscribe 4.0 included

#### Comments:

*Jun 25, 2009-* Komguy  
thank

#### [LPR/LPD Printing Solution](#)

UniPrint enables LPR/LPD systems to Windows printing. Fast & flexible.  
[www.UniPrint.net](#)

#### [Laser Printer](#)

Solutions for Your Small Business Business Begins Here.  
[www.business.com](#)

#### [Encad Driver Downloads](#)

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[DriverDownloadFiles.com/Encad](#)

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[I have a similar problem](#)

[Post a new problem](#)

#### Best Solution

posted on Jun 24, 2009



[komguy](#)  
Rank: Guru  
Rating: 89%, 358 votes

If you can't get this firmware at Samsung.com, let me know, I can get it from the service site and e-mail it to you.

Was this helpful? [Yes](#) [No](#) 1 person thought this was helpful

#### Solution #2

posted on Jul 21, 2009



[msalvadorcan](#)  
Rank: Apprentice  
Rating: 0%, 0 votes

If you do not have the corresponding NIC-Firmware it will not work. Thats the problem i have currently.

Was this helpful? [Yes](#) [No](#)

#### Need Parts & Services?

- [Chat Live with a Top Printer Expert](#)
- [Find the Top Printer Repairers in your area](#)

## Solve this problem



Do you have a solution to this problem?

Share your knowledge with the FixYa Community today!

[Post Solution](#)

#### Related Problems

[gyrene9940](#) just asked: Trying to print from desk to. wants to scan. - [Solve this!](#)

[Can you Solve these Problems?](#)

## Ask our Experts

Describe your Samsung SCX-6345N Printer Problem

☐ Get Immediate Assistance!

[Ask](#)

## Chat with a Pro

[Printers Tech](#)  
[Chat Live Now!](#)

Ads by Google

#### [Print IPDS to any Printer](#)

Use any of your Windows printers For real AFP/IPDS host printing  
[www.intermate.com](#)

#### [Printer Graphics](#)

Search Thousands of Catalogs for Printer Graphics  
[www.globalspec.com](#)

#### [Wann haben Sie sterben?](#)

10 wichtigen Thema. Machen Sie eine Tötung und nicht wissen! 2,99e/5t  
[www.Todes-Test.com](#)

## More Common Problems

For Samsung SCX-6345N Printer:

[Samsung SCX-6345N Printer](#)

Related Products & Issues:

[6345](#) [jsc](#) [Jscribe](#) [samsung scx 6345](#) [firmware](#)

## Top Printer Experts



[adirondacktr](#)

Rank: Guru  
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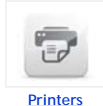
Gday, I have installed printer drivers for a Canon Pixma ip4200 with no problems. On...

[1 Solution](#)

[Printers](#)

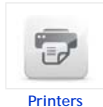
### LEXMARK X1240 All In One

Will not use color cartridge and display status shows the cartridge is full...

[1 Solution](#)

[Printers](#)

### Unable to print or copy Brother MFC-440CN

I am unable print, copy from this unit. The message is Unable to print 8F. There is...

[1 Solution](#)

[Printers](#)

### I have the pixma ip5300 printer and I need...

I love this printer. It has six ink cartridges. After many printings on printable...

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### need to have printer down loaded to...

I need to have a printer driver down load for Lexmark printer model # 4126-003. I have windows XP... [\(More\)](#)

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### error 0xc18a0301 ink system failure

error 0xc18a0301 ink system failure

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[Printers](#)

### Changed both color and b/w...

Changed both color and b/w cartridge. Now anything printed off internet prints in pink color only... [\(More\)](#)

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[Printers](#)

### I have a dell 948 printer that will...

I have a dell 948 printer that will not scan. When I hit "scan to computer" it says "downloading..." [\(More\)](#)

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[Samsung SCX-6345N...](#)

### NIC-Firmware for SCX 6345

Hello, I would need the corresponding NIC-Firmware for JScribe enabled SCX 6345N. Could someone help... [\(More\)](#)

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# EXHIBIT B



US006684789B2

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Krautter

(10) Patent No.: **US 6,684,789 B2**  
(45) Date of Patent: **Feb. 3, 2004**

(54) **METHOD AND SYSTEM FOR THE TRANSFORMATION OF DIGITAL PRINT DATA STREAMS AND CORRESPONDING PRINTER AND PRINTER SERVER**

(75) Inventor: Thomas Erfinders Krautter, Stuttgart (DE)

(73) Assignee: CCP Systems AG, Stuttgart (DE)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(52) U.S. Cl. .... 101/484; 101/486; 400/61; 400/62

(58) Field of Search ..... 101/484, 485, 101/486; 400/61, 62, 63, 76; 358/1.1, 1.9, 1.15, 1.16, 1.17, 1.18

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Primary Examiner—Andrew H. Hirshfeld

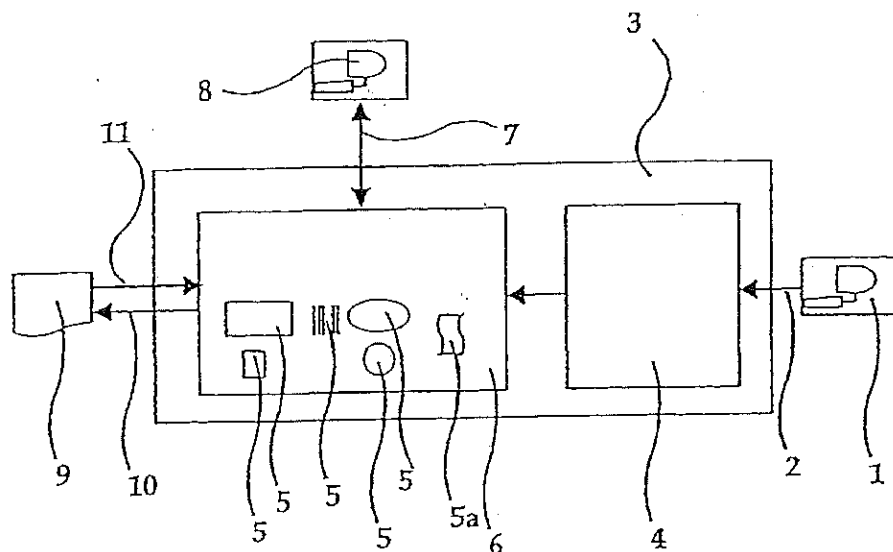
Assistant Examiner—Minh Chau

(74) Attorney, Agent, or Firm—Squire, Sanders & Dempsey LLP.

(57) **ABSTRACT**

A method for the transformation of digital print data streams, in which an input print data stream (2) is read in, this is analyzed by means of a parser (4) for graphically representable objects (5, 5a) and is split up into these graphically representable objects (5, 5a), and the graphically representable objects (5, 5a) are stored in a memory (6) in an object-oriented format, and the graphically representable objects (5, 5a) stored in the memory (6) in an object-oriented format are transformed into a format for the control of an output device (9), preferably a printer, and the objects thus transformed are combined into an output print data stream (10) and are output, graphically representable objects (5, 5a) being stored in the memory (6) in an object-oriented format, to which at least one stored script (5a) is assigned, which is executed in the cases defined in the script (5a).

53 Claims, 1 Drawing Sheet

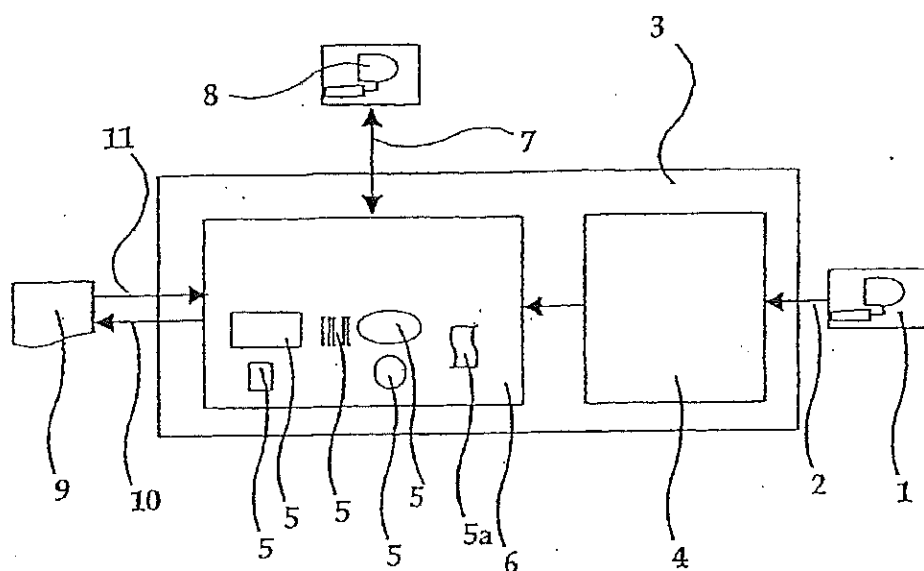


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FIG. 1



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# METHOD AND SYSTEM FOR THE TRANSFORMATION OF DIGITAL PRINT DATA STREAMS AND CORRESPONDING PRINTER AND PRINTER SERVER

The present invention relates to a method and system for the transformation of digital print data streams and corresponding printer and printer server.

Virtually all the output devices which are common nowadays use "page description languages", also called PDL, to produce printed documents. Here, an application program controls a driver for the output device (for example a printer driver). This driver converts information about the graphic objects to be output—for example text or image information—into the respective PDL suitable for the printer used, so that the latter can hereby be controlled directly.

More recent output devices, such as laser printers or digital color printers for example, also offer the possibility of buffering the data streams coming in to control them and, for example, using them as an original form for further incoming print data. This makes it possible to dispense with forms needed for the respective printing, such as letter paper, invoice forms or the like for example, in the individual case. Instead, the application software respectively used merely calls up the form stored once in the printer and combines it with the current print data. In this way, the accumulation of data, for example in networks, can be reduced considerably. However, the result is also organizational advantages: since the forms used no longer have to be kept in reserve by each individual user on his computer, in this way standardized use forms can be achieved, which firstly helps to ensure the often desired standard appearance of a company or an institution and secondly also makes it easier to use current form versions.

However, these aforementioned advantages are normally not used, since the printers used in a company or an institution—with regard to their control—are often not uniform and therefore the use of the functions described above is too complicated, since the appropriate forms either have to be available for each printer model used, which would be very labor-intensive, or only specific printers can be used for specific applications, which is very inflexible.

One possibility of solving this problem is to circumvent the abovescribed inhomogeneity of the output devices used by employing methods for the conversion of various data stream formats for controlling output devices, which makes it possible for all the computers which produce print data streams to be output to use a standard format for this purpose, by each printer being assigned an interface—be it a dedicated device, be it merely in the form of a software filter—which makes use of such a method and, on the side of the input data stream, uses the format to be used uniformly and, on the side of the output data stream, uses the specific format of the printer to be controlled.

Such a solution is described, for example, by EP 0 109 615 B1, which refers to a method for the conversion of text which is represented in the form of digital data. However, the method taught by this document has considerable disadvantages with regard to the possibilities of current systems from information technology: for example, the method is suitable only for those input print data streams which, in their syntax, follow a format description language whose syntax may be described with the aid of "regular expressions". This is because the method taught in EP 0 109 615 B1 makes use of a status machine, implemented by means of "key status variables", for the recognition and conversion of input control objects recognized in the input print data

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stream into output control objects. These output control objects are in this case produced directly from the input control objects—specifically in accordance with a fixed assignment—as a function of the respective state representing the key status variables. Such a procedure corresponds to the functioning of the theoretical model of the Moore or Mealy machines, which operate quite efficiently but permit only, the recognition of regular expressions. For these circumstances surrounding information technology at the priority date of EP 0 109 615, such a simple possible transformation may have been sufficient, since—as can already be gathered from claim 1 there—only text had to be converted, apart from format information.

For the current circumstances of PDLs or else other input formats to be recognized where possible, such as HTML or XML, this no longer applies in any way, however. In the meantime, these have been built up in such a complex way with regard to their possibilities that a status machine is no longer in any way adequate for their recognition and conversion.

However, the target format, into which the print data stream is to be transformed, nowadays places high requirements on a transformation: although in principle there would be the possibility here likewise of using the smallest common multiple of the functions of current printing format and in this way of reducing the effort on transformation, this convenience in the design of the transformation process would be brought at great expense in the operation of the method, since in this way the accumulation of data in networks would be increased again, since powerful printer control possibilities which as a rule become more and more specific with regard to the printer type used as the complexity increases, would necessarily have to be dispensed with. Such an increased accumulation of data would, however, again stand in the way of the objective of reducing the data traffic in the network by using PDLs. Thus, at the same time, there is a requirement on the transformation process that the latter produces the preconditions that the target formats can be produced in the most flexible manner possible with all their available printing functions, in order that the traffic on the data transmission lines can thus be minimized.

Furthermore, it is necessary to state that printing systems, even today, still only fulfill a single purpose: namely printing. All the manufacturers of laser printers and digital copying systems have made great efforts in recent years to match the processor powers, storage capacities and additional options (such as memory cards, hard drives, network cards) of these systems to the increasing requirements. However, the manner in which printers and copiers are controlled and programmed has not changed significantly in the last ten years.

Printing systems are still controlled by a page description language (PDL) such as PCL, Postscript or Prescribe. It permits a document and its components to be described adequately. However, the many additional options of modern printing and copying systems available in the meantime cannot be used. The consequence of this is that, even today, the entire printing process is controlled and monitored by a host computer. Its task substantially comprises converting the respective information exactly into the page description language "understood" by the printing system.

It is therefore an object of the present invention to specify a method for the transformation of digital print data streams which is both capable of recognizing more complex page description languages, whose syntax may no longer be described with the aid of simple regular expressions, and also provides the preconditions that the recognized graphic

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objects can be transformed into a target format, but also processed further, as flexibly and effectively as possible, that is to say with regard to their description at the highest possible level of abstraction.

According to the invention, this object is achieved by a method for the transformation of digital print data streams, in which an input print data stream is read in, this is analyzed by means of a parser for graphically representable objects and is split up into these graphically representable objects, and the graphically representable objects are stored in a memory in an object-oriented format, and the graphically representable objects stored in the memory in an object-oriented format are transformed into a format for the control of an output device, preferably a printer, and the objects thus transformed are combined into an output print data stream and are output, and which, according to the invention, is characterized in that graphically representable objects are stored in the memory in an object-oriented format, to which at least one stored script is assigned, which is executed in the cases defined in the script.

In this case, as opposed to the use of a status machine, the analysis and splitting of the input print data stream by a parser (syntax analyzer) ensures that the syntax of the page description language is no longer restricted to the use of regular expressions, and thus powerful page description languages can also be used. Instead, such a parser, in terms of its theoretical performance, corresponds to a Turing machine and therefore ensures the theoretically maximum achievable performance for the analysis and splitting up of formal languages.

Furthermore, storing the graphically representable objects—and therefore of course also the scripts, which themselves are certainly also graphically representable objects—in a memory in an object-oriented format achieves the situation where the objects recognized by the parser are then available in this intermediate format which is extremely beneficial for further processing.

The objects are preferably managed here by means of a "display list management", which supports one-page and multi-page documents at as many levels as desired and which can be expanded dynamically by new objects. The individual graphic objects are stored by using their membership of specific—expediently suitably hierarchically organized—classes such as relating to the class of points, ellipses, circles, lines, polygons, rectangles, squares or else to the more complex object types, such as bar codes, more complex texts or freely definable elements such as color profiles or fonts, which permits their effective conversion into an output print data stream, since, through the class of the respective object, there is already implicit information available about its possible transformation into the format of the output print data stream. For example, via an object of the type square, it is already known from the object hierarchy that this is a subclass of the rectangle. If, then, the target format for which an output print data stream is to be produced provides speech constructs relating to the description of rectangles in the page description language, then it is clear, merely on the basis of the position of the square in the object class hierarchy, that this is also a rectangle—albeit with special characteristics—and to this extent the possibilities of the target format with regard to rectangles can also be used for an object in the square class.

In addition to such implicit information—which can be derived from the object class hierarchy—about the individual objects, however, it is also possible to add to the objects explicit information about their possible conversions into specific target formats, it being advantageously possible

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for this also to be combined with the abovedescribed implicitly provided information, for example by a conversion method into a specific target format being added to a class which is arranged higher in the object class hierarchy, and then automatically also being available to the objects of subordinate, lower-ranking classes by way of inheritance, if a better specified method is not already assigned to said subordinate classes.

In one embodiment of the method according to the invention, the graphically representable objects are combined into super-objects of higher complexity before being stored in the memory.

The super-objects obtained in this way are then stored in the memory in the object-oriented format. In this way, less complex graphic objects can be combined to form more complex graphic super-objects. For example, sequences of lines which in each case join one another at the ends and have been recognized as graphic objects in the input print data stream can be combined to form a graphic polygon super-object. Such a combination offers various advantages, such as easier handling of the super-object stored as a whole as compared with the individual objects, since said super-object can then be treated uniformly by the methods for the super-object class with effect for all the part objects combined in it. It also helps, in certain circumstances, to further minimize the data traffic on the transmission lines used, since an object once combined is subsequently also forwarded in combined form in the output print data stream—if technically supported there—which generally requires a lower data volume to be transmitted than the transmission of the individual objects.

A preferred embodiment of the method according to the present invention is characterized in that a parser is used for the analysis and splitting up into the graphically representable objects, which, in the theoretical model, corresponds to an automatic push-down facility and which is therefore capable of analyzing and splitting up languages with "context-free grammars" particularly effectively.

A further embodiment of the method according to the present invention is characterized in that feedback messages referring to the output print data stream output are read in and are analyzed for error messages which indicate that the output device, preferably the printer, has recognized a transformed graphic object in the output print data stream which cannot be output by said printer, this graphic object is then split up into part objects of lower complexity, and the part objects thus obtained, in the format for the control of the output device, are slipped into the output print data stream which is output to the output device.

In this way, it is likewise possible to test whether the driven output device is, for example, capable of recognizing and outputting a bar-code object directly or not. If it is not capable of this and reports this back, then the bar code is simply split up into objects of the next lower hierarchy, for example filled rectangles, and a further try is made with these objects. This is continued until—if necessary until the graphic objects are split up into individual points—the output attempt is successful. The object-oriented data structure with its object hierarchy, chosen for the intermediate format, also proves to be particularly suitable for this procedure. For the further performance of the method, it is preferably noted at which level of the object classes in each case the splitting process was successful for a specific output device, in order then, in the next attempt, already to begin the output process at this level, in order also thus to avoid unnecessary data transfers, but likewise to utilize the maximum level of abstraction of the output device. In this way,



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the data volume to be transmitted is reduced to the necessary extent, even with high flexibility.

In an embodiment of the method according to the present invention, at least one graphically representable object stored in the memory in the object-oriented format is assigned at least one script which controls external devices, preferably archiving devices, folding systems, enveloping systems or security equipment, which permits the incorporation of all the devices needed in the widest sense for document processing.

A further preferred embodiment of the method according to the invention is characterized in that at least one graphically representable object stored in the memory in the object-oriented format is assigned at least one script which automatically receives data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

The script automatically receiving data can preferably also request this data automatically.

It is likewise possible that a script also sends data automatically, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails, it being able in particular also to send the graphic object associated with itself to a receiver.

It can also in turn reassign the data received by it to the graphic object associated with it, and forwards the graphic object associated with itself to a receiver together with the data requested, received and reassigned by itself, or else print out said data.

In relation to the above explanations, it should be noted that the embodiments of the method according to the invention which themselves provide other objects with objects, for example by forwarding them or keeping them ready to receive or for interrogation by a script, for example, are also covered by the term "dynamic object linking" (DOL).

Systems that operate on the method according to the invention, such as printing systems, are capable of sending and receiving e-mails and of printing original print and image data without a printer driver. They are able to store any desired information on hard disks or memory cards and make said data available to all the devices connected in the network and Internet. In other words, they independently undertake demanding tasks in information processing and provision, in order to relieve host computers and personal computers of quite a lot of administrative tasks. In a heterogeneous network and printing environment with laser printing and copying systems from different manufacturers in combination with impact printers and special printing systems, they also make it possible to administer all the connected printing systems with the aid of a single standardized programming language, namely the script language, and therefore reduce the effort on administration to a minimum. At this point, it should be mentioned that these systems operating by the method according to the invention are also designated JScribe (registered trademark) systems and, accordingly, the method according to the invention is also designated JScribe (registered trademark).

When JScribe (registered trademark) is used, developers and system houses will therefore be in a position to provide objects and functions which are stored in resident form in the printing system and permit and control desired individual operating sequences. These objects and functions can use any functionality provided by the JScribe (registered trademark) basic technology, including extremely demanding commands for the job or page processing and for the

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complete control of the print data and emulations. The method according to the invention preferably also enables access to internal printer functions and status information (page counter, network components, file system and so on), for example via a script.

The method according to the invention is preferably characterized in that graphically representable objects are stored in the memory in an object-oriented format, to which at least one stored script is assigned, which is executed in the case of the output of the object defined in the script. In this way, for example, it is possible to execute such scripts, for example Visual Basic Scripts, Java Scripts or else "stream code" in an event-oriented manner, for example in the case where a form object is printed out, likewise "ON-PRINT" by which means, for example, to execute such functions as the printing of copies of the same form with the same net data but on different paper from different trays. In particular in interaction with those embodiments of the method according to the invention which control external devices, such as folding or enveloping machines or else stapling machines, this is particularly advantageous.

However, it may also be the case that at least one case relating to the execution of the script is defined in the respective script and occurs automatically, preferably without further influence from outside.

For example, the automatically occurring case, defined at least in the respective script, relating to the execution of the script can be configured as a timer, that is to say as a case which occurs automatically as a result of the expiry of a time, this timer preferably operating cyclically, that is to say starting itself again upon expiry.

Automatic scripts can therefore intrinsically become active and, for example, load the daily newspaper, where possible itself assembled from different sources, from the Internet, assign the found, loaded and analyzed information to a stored object and then print this object, completely without the participation of a PC or other host computer to which the printer would be connected.

For example, the simple download of JScribe (registered trademark) sequences (scripts with appropriately associated objects) can, for example, arrange for the printer automatically to fetch information about current share prices, to format it and to print it out. Image information, text documents, web pages, XML documents and any other desired print data can be analyzed while dispensing with any preparation by the PC (for example by a printer driver), modified if necessary and printed out in optimum quality. Since JScribe (registered trademark) can also be employed simultaneously as a server version for computer systems, printing systems are for the first time made capable of accessing stocks of data on host systems (for example SQL databases) interactively during the printing operation.

The language used for the scripts according to the present invention is preferably Java Script. Java Script, as a world-established standard for the script-controlled, intelligent programming of web pages, has triggered in the Internet an avalanche of innovative and functional solutions which have contributed decisively to ringing in the age of eBusiness and eCommerce. This intelligent technology, which has so decisively marked the worldwide, rapid development of the Internet, is therefore now also available for printing systems for the first time and here preferably forms the basic technology for script applications in the area of the present invention, and consequently print and document management, which is certainly uniquely and, as compared with established solutions, considerably more cost-effective.

With JScribe in conjunction with Java Script, an innovative technology is therefore provided which allows any

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corresponding print system operated in accordance with the method according to the invention to be programmed just as simply as an Internet homepage. The communications possibilities already described, together with the logically modular object-oriented construction of JScribe and the JavaScript-typical expansion possibilities ideally supporting JScribe permit within the shortest possible time the construction of complex output management systems for an extremely wide range of applications.

A further preferred embodiment of the method according to the present invention is characterized in that the graphically representable objects stored in the memory in an object-oriented format, preferably also script objects (for example Java Script objects), preferably before they are output in the output print data stream, are kept ready by an application interface to be read out, to be changed, to be deleted or to have new objects appended.

According to the prior art, hitherto the page descriptions necessary for the storage of forms in the output devices had to be created laboriously by hand, that is to say programmed in the respective page description language—time-consuming and expensive work which can be carried out only by a few programmers qualified to do this. The same also applies to changes in the stored data.

The object-oriented intermediate format now makes it possible for the stored graphically representable objects to be kept ready to be read out, to be changed, to be deleted or for new objects to be appended, in a technically elegant manner via an application interface, by assigning the methods required for this to the respective objects in accordance with their class hierarchy. This means that the objects stored in the memory can, for example, be displayed on a screen and modified as desired. Here, too, deleting existing objects and appending new objects are also possible.

By means of binding suitable application software—also called FormMaker—it is therefore made possible in particular for each EDP user to modify existing forms and to create new forms entirely without any programming knowledge, which likewise applies to scripts.

Given suitable selection of the application interface and processing methods correspondingly available to a sufficient extent for the object classes used, a graphic core system with a functional interface is thus made available, which can be used by applications for graphic user interfaces, such as those based on the Windows operating system, to display the object data as a standard document on the screen and to modify it with different processing tools.

The application interface also preferably permits script objects, preferably JavaScript objects themselves, to be read out graphically, to be changed, to be deleted or to be appended, these graphically performed manipulations being automatically transformed, if required, into script objects, preferably JavaScript objects. It thus provides a complete graphic development environment for computers, preferably computers operating under the Windows operating system, which permits the printing and copying systems to be programmed without JavaScript knowledge.

In addition, already existing development tools which are based on Java can likewise be used for the development of individual JScribe (registered trademark) applications.

The use of "FormMaker" application software permits the design of "intelligent" electronic forms, which are transformed into logical documents with the aid of JScribe (registered trademark). These in turn can be made available in systems connected to the network and output at any desired location by any desired printing systems, preferably laser printing systems and digital copying systems, sent as e-mail or else transferred to archiving systems.

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The present method according to the invention can also be present implemented on a system for the transformation of digital print data streams comprising at least one data processing unit having at least one memory and at least one communications interface, the data processing unit being programmed in such a way that it operates in accordance with an embodiment of the method according to the invention.

In this case, the system preferably also has an operating station with display means and input means, which makes it possible for the graphically representable objects stored in the memory of the data processing unit in an object-oriented format, preferably also script objects, to be read out via the application interface, to be changed, to be deleted or to be appended, preferably before they are output in the output print data stream.

In addition, the system according to the invention can moreover permit respectively stored objects, preferably even script objects themselves, such as JavaScript objects, to be read out graphically, to be changed, to be deleted or to be appended, these graphically performed manipulations being transformed automatically, if required, into JavaScript objects.

The system according to the invention can also be integrated into a printer or else a printer server.

JScribe (registered trademark) can therefore not only be employed directly on printers and digital copying system but can also be implemented on PC server platforms.

For installation purposes on printing systems, the JScribe script sequences can, for example, be incorporated into a Prescribe (registered trademark) data stream. The printing system receiving this data, for example the appropriate laser printer or digital copier, will read in and compile the program code.

This permits the configuration of networks with hardware units which are small but equipped with high functionality, which have a common interface and permit access relating to archiving documents, to distributed printing (cluster printing) and security printing and much more.

The abovedescribed embodiments of the method according to the present invention can of course in each case also be implemented as a computer program product which has a computer-readable medium with computer program code means or as a computer program on an electronic carrier signal and in which, in each case after the computer program has been loaded, the computer is caused by the program to carry out the method according to the invention described here.

In the following text, an exemplary embodiment, not to be understood as restrictive, will be discussed by using the drawing, in which:

FIG. 1 shows the sequence of an embodiment of the method according to the invention using a schematic representation.

FIG. 1 shows the sequence of an embodiment of the method according to the invention using a schematic representation. From a computer 1, an input print data stream 2 is sent to a device 3—for example a computer such as a PC or else an intelligent output device such as an intelligent printer—which operates in accordance with the method according to the present invention. There, the input print data stream 2 is analyzed and split up by a parser 4. The graphic objects 5, 5a recognized as the product of this splitting are stored in a memory 6 in an object-oriented format; this is after they have possibly been combined to form super-objects. The objects 5 stored in the memory 6, preferably script objects 5a, are kept ready to be read out via



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an application interface 7, to be changed, to be deleted or for new objects to be appended. In this way, the objects 5, 5a stored in the memory 6 can, for example, be displayed on a screen 9 and modified as desired. Deleting existing objects and appending new objects is also possible here. If suitable application software is used, it is thus possible for any user to modify existing forms easily and without programming knowledge or to create new forms easily and without programming knowledge or to create new forms. The graphically representable objects 5, 5a stored in the memory 6 in an object-oriented format are transformed into a format for the control of an output device, preferably a printer 9, in order to be output, and the objects 5, 5a thus transformed are combined into an output print data stream 10 and output. Feedback messages 11 concerning the output print data stream 10 output are read in and analyzed for error messages which indicate that the printer 10 has detected a graphic object 5, 5a in the output print data stream 10 which cannot be output or processed by said printer. This graphic object 5, 5a is then split up into part objects of lower complexity, and the part objects obtained in this way, in the format for the control of the printer 9, are slipped into the output print data stream 10 which is output to the printer 9.

What is claimed is:

1. A method for the transformation of digital print data streams, in which

- (i) an input print data stream (2) is read in,
- (ii) this is analyzed by means of a parser (4) for graphically representable objects (5) and is split up into these graphically representable objects (5), and
- (iii) the graphically representable objects (5) are stored in a memory (6) in an object-oriented format, and
- (iv) the graphically representable objects (5) stored in the memory (6) in an object-oriented format are transformed into a format for the control of an output device (9), preferably a printer, and
- (v) the objects thus transformed are combined into an output print data stream (10) and are output,

characterized in that graphically representable objects (5, 5a) are stored in the memory (6) in an object-oriented format, to which at least one stored script is assigned, which is executed in the cases defined in the script.

2. The method as claimed in claim 1, characterized in that the graphically representable objects (5, 5a) are combined into super-objects of higher complexity before being stored in the memory (6).

3. The method as claimed in claim 1, characterized in that feedback messages (11) referring to the output print data stream (10) output are read in and are analyzed for error messages which indicate that the output device (9), preferably the printer, has recognized a transformed graphic object in the output print data stream (10) which cannot be output by said printer, this graphic object is then split up into part objects of lower complexity, and the part objects thus obtained, in the format for the control of the output device (9), are slipped into the output print data stream (10) which is output to the output device (9).

4. The method as claimed in claim 1, characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which controls external devices, preferably archiving devices, folding systems, enveloping systems or security equipment.

5. The method as claimed in claim 1, characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least

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one script (5a) which automatically receives data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

6. The method as claimed in claim 5, characterized in that the script (5a) automatically receiving data also requests this data automatically.

7. The method as claimed in claim 5, characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated with itself, and prints out the graphic object (5) assigned to itself together with the data requested, received and reassigned by itself.

8. The method as claimed in claim 1, characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically sends data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

9. The method as claimed in claim 8, characterized in that the script (5a) sends the graphic object (5) associated with itself to receiver.

10. The method as claimed in claim 9, characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated with it, and prints out the graphic object (5) assigned to itself together with the data requested, received and reassigned by itself.

11. The method as claimed in claim 1, characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which is executed in the case of the output of the object (5) defined in the script (5a).

12. The method as claimed in claim 1, characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a), at least one case relating to the execution of the script (5a) being defined in the respective script (5a), and occurring automatically, preferably without further influence from outside.

13. The method as claimed in claim 12, characterized in that the automatically occurring case, defined at least in the respective script (5a), relating to the execution of the script (5a) is configured as a timer, that is to say as a case which occurs automatically as a result of expiry of time.

14. The method as claimed in claim 13, characterized in that the timer operates cyclically, that is to say it starts itself again upon expiry.

15. The method as claimed in claim 1, characterized in that Java Script is used as a formal language for the scripts.

16. The method as claimed in claim 1, characterized in that the graphically representable objects (5) stored in the memory (6) in an object-oriented format, preferably also script objects (5a), preferably before they are output in the output print data stream (10), are kept ready by an application interface (7) to be read out, to be changed, to be deleted or to have new objects (5) appended.

17. A system for the transformation of digital print data streams comprising at least one data processing unit having at least one memory and at least one communications interface, characterized in that the data processing unit is programmed in such a way that it operates in accordance with the method as claimed claim 1.

18. The system for the transformation of digital print data streams as claimed in claim 17, the system also has an operating station with display means (8) and input means, which makes it possible for the graphically representable objects (5) stored in the memory (6) of the data processing

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unit in an object-oriented format, preferably also script objects (5a), to be read out via the application interface (7), to be changed, to be deleted or to be appended, preferably before they are output in the output print data stream (10).

19. The system for the transformation of digital print data streams as claimed in claim 17, wherein the data processing unit, permits respectively stored objects, preferably also Java Script objects (5a) themselves, to be read out graphically, to be changed, to be deleted or to be appended, these graphically performed manipulations if necessary being transformed automatically into Java Script objects (5a).

20. A printer, characterized in that it has a system for the transformation of digital print data streams as claimed in claim 17.

21. A printer server, characterized in that it has a system for the transformation of digital print data streams as claimed in claim 17.

22. A computer-readable medium having stored thereon instructions to cause a processor to execute a method, the method comprising:

- (i) an input print data stream (2) is read in,
- (ii) this is analyzed by means of a parser (4) for graphically representable objects (5) and is split up into these graphically representable objects (5), and
- (iii) the graphically representable objects (5) are stored in a memory (6) in an object-oriented format,
- (iv) the graphically representable objects (5) stored in the memory (6) in an object-oriented format are transformed into a format for the control of an output device (9), preferably a printer, and
- (v) the objects thus transformed are combined into an output print data stream (10) and are output, characterized in that graphically representable objects (5, 5a) are stored in the memory (6) in an object-oriented format, to which at least one stored script is assigned, which is executed in the cases defined in the script.

23. The computer-readable medium as claimed in claim 22, the method characterized in that the graphically representable objects (5, 5a) are combined into super-objects of higher complexity before being stored in the memory (6).

24. The computer-readable medium as claimed in claim 22, the method characterized in that feedback messages (11) referring to the output print data stream (10) output are read in and are analyzed for error messages which indicate that the output device (9), preferably the printer, has recognized a transformed graphic object in the output print data stream (10) which cannot be output by said printer, this graphic object is then split up into part objects of lower complexity, and the part objects thus obtained, in the format for the control of the output device (9), are slipped into the output print data stream (10) which is output to the output device (9).

25. The computer-readable medium as claimed in claim 22, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which controls external devices, preferably archiving devices, folding systems, enveloping systems or security equipment.

26. The computer-readable medium as claimed in claim 22, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically receives data, preferably data organized in an object-oriented manner, image data, text data or data

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from web pages from the Internet, data from XML documents or else e-mails.

27. The computer-readable medium as claimed in claim 26, the method characterized in that the script (5a) automatically receiving data also requests this data automatically.

28. The computer-readable medium as claimed in claim 26, the method characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated with itself, and prints out the graphic object (5) assigned to itself together with the data requested, received and reassigned by itself.

29. The computer-readable medium as claimed in claim 22, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically sends data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

30. The computer-readable medium as claimed in claim 29, the method characterized in that the script (5a) sends the graphic object (5) associated with itself to a receiver.

31. The computer-readable medium as claimed in claim 30, the method characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated with it, and forwards the graphic object (5) associated with itself to a receiver together with the data requested, received and reassigned by itself.

32. The computer-readable medium as claimed in claim 22, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which is executed in the case of the output of the object (5) defined in the script (5a).

33. The computer-readable medium as claimed in claim 22, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a), at least one case relating to the execution of the script (5a) being defined in the respective script (5a), and occurring automatically, preferably without further influence from outside.

34. The computer-readable medium as claimed in claim 33, the method characterized in that the automatically occurring case, defined at least in the respective script (5a), relating to the execution of the script (5a) is configured as a timer, that is to say as a case which occurs automatically as a result of expiry of time.

35. The computer-readable medium as claimed in claim 34, the method characterized in that the timer operates cyclically, that is to say it starts itself again upon expiry.

36. The computer-readable medium as claimed in claim 22, the method characterized in that Java Script is used as a formal language for the scripts.

37. The computer-readable medium as claimed in claim 22, the method characterized in that the graphically representable objects (5) stored in the memory (6) in an object-oriented format, preferably also script objects (5a), preferably before they are output in the output print data stream (10), are kept ready by an application interface (7) to be read out, to be changed, to be deleted or to have new objects (5) appended.

38. A computer data signal embodied in a carrier wave and representing sequences of instructions which, when executed by a processor, cause the processor to perform a method, the method comprising:

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- (i) an input print data stream (2) is read in,
  - (ii) this is analyzed by means of a parser (4) for graphically representable objects (5) and is split up into these graphically representable objects (5), and
  - (iii) the graphically representable objects (5) are stored in a memory (6) in an object-oriented format,
  - (iv) the graphically representable objects (5) stored in the memory (6) in an object-oriented format are transformed into a format for the control of an output device (9), preferably a printer, and
  - (v) the objects thus transformed are combined into an output print data stream (10) and are output,
- characterized in that graphically representable objects (5, 5a) are stored in the memory (6) in an object-oriented format, to which at least one stored script is assigned, which is executed in the cases defined in the script.

39. The computer data signal as claimed in claim 38, the method characterized in that the graphically representable objects (5, 5a) are combined into super-objects of higher complexity before being stored in the memory (6).

40. The computer data signal as claimed in claim 38, the method characterized in that feedback messages (11) referring to the output print data stream (10) output are read in and are analyzed for error messages which indicate that the output device (9), preferably the printer, has recognized a transformed graphic object in the output print data stream (10) which cannot be output by said printer, this graphic object is then split up into part objects of lower complexity, and the part objects thus obtained, in the format for the control of the output device (9), are slipped into the output print data stream (10) which is output to the output device (9).

41. The computer data signal as claimed in claim 38, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which controls external devices, preferably archiving devices, folding systems, enveloping systems or security equipment.

42. The computer data signal as claimed in claim 38, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically receives data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

43. The computer data signal as claimed in claim 42, the method characterized in that the script (5a) automatically receiving data also requests this data automatically.

44. The computer data signal as claimed in claim 42, the method characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated with itself, and prints out the graphic object (5) assigned to

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itself together with the data requested, received and reassigned by itself.

45. The computer data signal as claimed in claim 38, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically sends data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

46. The computer data signal as claimed in claim 45, the method characterized in that the script (5a) sends the graphic object (5) associated with itself to a receiver.

47. The computer data signal as claimed in claim 46, the method characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated with it, and forwards the graphic object (5) associated with itself to a receiver together with the data requested, received and reassigned by itself.

48. The computer data signal as claimed in claim 38, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which is executed in the case of the output of the object (5) defined in the script (5a).

49. The computer data signal as claimed in claim 38, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a), at least one case relating to the execution of the script (5a) being defined in the respective script (5a), and occurring automatically, preferably without further influence from outside.

50. The computer data signal as claimed in claim 49, the method characterized in that the automatically occurring case, defined at least in the respective script (5a), relating to the execution of the script (5a) is configured as a timer, that is to say as a case which occurs automatically as a result of expiry of time.

51. The computer data signal as claimed in claim 50, the method characterized in that the timer operates cyclically, that is to say it starts itself again upon expiry.

52. The computer data signal as claimed in claim 38, the method characterized in that Java Script is used as a formal language for the scripts.

53. The computer data signal as claimed in claim 38, the method characterized in that the graphically representable objects (5) stored in the memory (6) in an object-oriented format, preferably also script objects (5a), preferably before they are output in the output print data stream (10), are kept ready by an application interface (7) to be read out, to be changed, to be deleted or to have new objects (5) appended.

\* \* \* \* \*



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/275,784	02/03/2004	6684789	60428.00001	5658

30256 7590 01/15/2004  
SQUIRE, SANDERS & DEMPSEY L.L.P.  
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PALO ALTO, CA 94304-1043

DATES ENTERED \_\_\_\_\_  
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JAN 20 2004

## ISSUE NOTIFICATION

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SQUIRE, SANDERS & DEMPSEY

The projected patent number and issue date are specified above.

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**  
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

## APPLICANT(S):

Thomas Krautter, Stuttgart, GERMANY;



Date Mailed: November 3, 2003 By: AW/sav PTO DATE STAMP:  
 Serial No.: 10/275,784 Docket No.: 60428.00001  
 Applicant: Thomas Krautter  
 Title: METHOD AND SYSTEM FOR THE TRANSFORMATION OF DIGITAL PRINT DATA STREAMS AND  
 CORRESPONDING PRINTER AND PRINTER SERVER

The following has been received in the U.S. Patent Office on the date stamped hereon:

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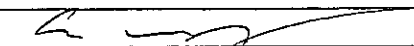
<b>TRANSMITTAL FORM</b>  <i>(to be used for all correspondence after initial filing)</i>	Application Number	10/275,784	
	Filing Date	November 7, 2002	
	First Named Inventor	Thomas Krautter	
	Art Unit	2854	
	Examiner Name	Chau, Minh H.	
Total Number of Pages in This Submission	3	Attorney Docket Number	60428.00001

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**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual name	Aaron Winingar, Reg. No. 45,229 Squire, Sanders & Dempsey L.L.P. 600 Hansen Way Palo Alto, CA 94304-1043
Signature	
Date	November 3, 2003

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/275,784	11/07/2002	Thomas Krautter	60428.00001	5658

TITLE OF INVENTION: METHOD AND SYSTEM FOR THE TRANSFORMATION OF DIGITAL PRINT DATA STREAMS AND CORRESPONDING PRINTER AND PRINTER SERVER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$300	\$1630	01/07/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
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 Alexandria, Virginia 22313-1450  
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CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

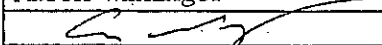
30256 7590 10/07/2003

SQUIRE, SANDERS & DEMPSEY L.L.P.  
 600 HANSEN WAY  
 PALO ALTO, CA 94304-1043

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## Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO, on the date indicated below.

Aaron Wininger	(Depositor's name)
	(Signature)
November 3, 2003	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/275,784	11/07/2002	Thomas Krautter	60428.00001	5658

TITLE OF INVENTION: METHOD AND SYSTEM FOR THE TRANSFORMATION OF DIGITAL PRINT DATA STREAMS AND CORRESPONDING PRINTER AND PRINTER SERVER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$300	\$1630	01/07/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHAU, MINH H	2854	101-484000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

Squire, Sanders &  
 1 Dempsey L.L.P.  
 2  
 3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

CCP Systems AG

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Stuttgart, Germany

Please check the appropriate assignee category or categories (will not be printed on the patent); ☐ individual ☒ corporation or other private group entity ☐ government

4a. The following fee(s) are enclosed:

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☐ Advance Order - # of Copies \_\_\_\_\_

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- ☐ A check in the amount of the fee(s) is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☒ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 05-0150 (enclose an extra copy of this form).

Director for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature)

Aaron Wininger, Reg. No. 45,229

(Date)

11/3/03

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.





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DATES ENTERED

## NOTICE OF ALLOWANCE AND FEE(S) DUE

30256

7590

10/07/2003

SQUIRE, SANDERS & DEMPSEY L.L.P.  
600 HANSEN WAY  
PALO ALTO, CA 94304-1043

OCT 10 2003

CALENDARED

BY SAJ  
ATTORNEY  
SQUIRE, SANDERS & DEMPSEY

EXAMINER

CHAU, MINH H

ART UNIT

PAPER NUMBER

2854

DATE MAILED: 10/07/2003

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/275,784	11/07/2002	Thomas Krautter	60428.00001	5658

TITLE OF INVENTION: METHOD AND SYSTEM FOR THE TRANSFORMATION OF DIGITAL PRINT DATA STREAMS AND CORRESPONDING PRINTER AND PRINTER SERVER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$300	\$1630	01/07/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

## HOW TO REPLY TO THIS NOTICE:

## I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

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If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status.  
See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

## PART B - FEE(S) TRANSMITTAL

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30256 7590 10/07/2003

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(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/275,784	11/07/2002	Thomas Krautter	60428.00001	5658

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nonprovisional	NO	\$1330	\$300	\$1630	01/07/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHAU, MINH H	2854	101-484000

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1	_____
2	_____
3	_____

## 3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent); ☐ individual ☐ corporation or other private group entity ☐ government

4a. The following fee(s) are enclosed:

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☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

Director for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature)

(Date)

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/275,784	11/07/2002	Thomas Krautter	60428.00001	5658
30256	7590	10/07/2003	EXAMINER	
SQUIRE, SANDERS & DEMPSEY L.L.P.			CHAU, MINH H	
600 HANSEN WAY			ART UNIT	
PALO ALTO, CA 94304-1043			PAPER NUMBER	
			2854	

DATE MAILED: 10/07/2003

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**  
 (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/275,784	11/07/2002	Thomas Krautter	60428.00001	5658
30256	7590	10/07/2003	EXAMINER	
SQUIRE, SANDERS & DEMPSEY L.L.P.			CHAU, MINH H	
600 HANSEN WAY			ART UNIT	
PALO ALTO, CA 94304-1043			PAPER NUMBER	
			2854	

DATE MAILED: 10/07/2003

## Notice of Fee Increase on October 1, 2003

If a reply to a "Notice of Allowance and Fee(s) Due" is filed in the Office on or after October 1, 2003, then the amount due will be higher than that set forth in the "Notice of Allowance and Fee(s) Due" since there will be an increase in fees effective on October 1, 2003. See Revision of Patent Fees for Fiscal Year 2004; Final Rule, 68 Fed. Reg. 41532, 41533, 41534 (July 14, 2003).

The current fee schedule is accessible from (<http://www.uspto.gov/main/howtofees.htm>).

If the fee paid is the amount shown on the "Notice of Allowance and Fee(s) Due" but not the correct amount in view of the fee increase, a "Notice of Pay Balance of Issue Fee" will be mailed to applicant. In order to avoid processing delays associated with mailing of a "Notice of Pay Balance of Issue Fee," if the response to the Notice of Allowance is to be filed on or after October 1, 2003 (or mailed with a certificate of mailing on or after October 1, 2003), the issue fee paid should be the fee that is required at the time the fee is paid. If the issue fee was previously paid, and the response to the "Notice of Allowance and Fee(s) Due" includes a request to apply a previously-paid issue fee to the issue fee now due, then the difference between the issue fee amount at the time the response is filed and the previously-paid issue fee should be paid. See Manual of Patent Examining Procedure, Section 1308.01 (Eighth Edition, August 2001).

Effective October 1, 2003, 37 CFR 1.18 is amended by revising paragraphs (a) through (c) to read as set forth below.

## Section 1.18 Patent post allowance (including issue) fees.

- (a) Issue fee for issuing each original or reissue patent, except a design or plant patent:
- By a small entity (Sec. 1.27(a))..... \$665.00
  - By other than a small entity..... \$1,330.00
- (b) Issue fee for issuing a design patent:
- By a small entity (Sec. 1.27(a))..... \$240.00
  - By other than a small entity..... \$480.00
- (c) Issue fee for issuing a plant patent:
- By a small entity (Sec. 1.27(a))..... \$320.00
  - By other than a small entity..... \$640.00

Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/275,784	KRAUTTER, THOMAS	
	Examiner	Art Unit	
	Minh H Chau	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Application filed on 07 November 2002.
2. ☒ The allowed claim(s) is/are 1-53.
3. ☒ The drawings filed on 07 November 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

☐ CORRECTED DRAWINGS must be submitted.

(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.

(b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.

(c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

- 1 ☒ Notice of References Cited (PTO-892)
- 3 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 5 ☒ Information Disclosure Statements (PTO-1449), Paper No. 2.
- 7 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

- 2 ☐ Notice of Informal Patent Application (PTO-152)
- 4 ☐ Interview Summary (PTO-413), Paper No. \_\_\_\_\_.
- 6 ☐ Examiner's Amendment/Comment
- 8 ☒ Examiner's Statement of Reasons for Allowance
- 9 ☐ Other

**Notice of References Cited**

Application/Control No.

10/275,784

Applicant(s)/Patent Under  
Reexamination  
KRAUTTER, THOMAS

Examiner

Minh H Chau

Art Unit

2854

Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,566,278	10-1996	Patel et al.	358/1.15
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



6011 L1010  
PTO/SB/08A (10-01)  
07 NOV 2

Approved through 10/31/2002, OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO		Complete if Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	Unknown 10/275,784
		Filing Date	November 7, 2002
		First Named Inventor	Thomas Krautter
		Group Art Unit	Unknown 2854
		Examiner Name	Unknown MINH CHAU
		Attorney Docket Number	60428.00001
Sheet	1	of	1

U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
NE		US-5,216,754	06-01-1993	Kitty Sathi, et al.	
NE		US- 6,006,013	12-21-1999	David E. Rumph, et al.	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS						
Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>3</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup>				
NE		EP - 0 109 615 - B1	06-01-1994	International Business Machines Corporation		
NE		EP - 0 964 339 - A2	12-15-1999	NEC Corporation		
NE		EP - 1 061 456 - A2	12-20-2000	NEC Corporation		
NE		GB - 2 357 348 - A	06-20-2001	International Business Machines Corporation		
NE		WO - 00/17748	03-30-2000	Netcreate Systems, Inc.		
NE		WO - 00/55720	09-21-2000	Prout AG		

Examiner Signature	MINH CHAU	Date Considered	09-24-03
--------------------	-----------	-----------------	----------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Application/Control Number: 10/275,784

Page 2

Art Unit: 2854

### REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance:

Claims 1-53 have been indicated for allowance because the prior art fails to teach the entire combination of a method for the transformation of digital print data stream including a steps of reading an input print data stream, analyzing the input data stream by means of a parser and splitting the input data into the graphically representable objects, storing the graphically representable objects in a memory in an object-oriented format, transforming the object-oriented format into a format for controlling a printer, the object-oriented format stored in the memory including at least one stored script is assigned, which is executed in the case defined in the script.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh H Chau whose telephone number is (703) 305-0298. The examiner can normally be reached on M - TH.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew H Hirshfeld can be reached on (703) 305-6619. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MHC

September 20, 2009



ANDREW H. HIRSHFELD

**REVISED AMENDMENT PRACTICE: 37 CFR 1.121 CHANGED  
COMPLIANCE IS MANDATORY - Effective Date: July 30, 2003**

All amendments filed on or after the effective date noted above must comply with revised 37 CFR 1.121. See Final Rule: **Changes To Implement Electronic Maintenance of Official Patent Application Records** (68 Fed. Reg. 38611 (June 30, 2003)), posted on the Office's website at: <http://www.uspto.gov/web/patents/ifw/> with related information. The amendment practice set forth in revised 37 CFR 1.121, and described below, replaces the voluntary revised amendment format available to applicants since February 2003. **NOTE: STRICT COMPLIANCE WITH THE REVISED 37 CFR 1.121 IS REQUIRED AS OF THE EFFECTIVE DATE (July 30, 2003).** The Office will notify applicants of amendments that are not accepted because they do not comply with revised 37 CFR 1.121 via a Notice of Non-Compliant Amendment. See MPEP 714.03 (Rev. 1, Feb. 2003). The non-compliant section(s) will have to be corrected and the entire corrected section(s) resubmitted within a set period.

***Bold underlined italic font has been used below to highlight the major differences between the revised 37 CFR 1.121 and the voluntary revised amendment format that applicants could use since February, 2003.***

Note: The amendment practice for reissues and reexamination proceedings, except for drawings, has not changed.

**REVISED AMENDMENT PRACTICE**

**I. Begin each section of an amendment document on a separate sheet:**

Each section of an amendment document (e.g., Specification Amendments, Claim Amendments, Drawing Amendments, and Remarks) must begin on a separate sheet. Starting each separate section on a new page will facilitate the process of separately indexing and scanning each section of an amendment document for placement in an image file wrapper.

**II. Two versions of amended part(s) no longer required:**

37 CFR 1.121 has been revised to **no longer require** two versions (a clean version and a marked up version) of each replacement paragraph or section, or amended claim. Note, however, the requirements for a clean version and a marked up version for **substitute specifications** under 37 CFR 1.125 have been retained.

**A) Amendments to the claims:**

Each amendment document that includes a change to an existing claim, cancellation of a claim or submission of a new claim, **must include a complete listing** of all claims in the application. After each claim number in the listing, the status must be indicated in a parenthetical expression, and **the text of each pending claim** (with markings to show **current** changes) must be presented. The claims in the listing will replace all prior claims in the application.

- (1) The current status of all of the claims in the application, including any previously canceled, not entered or withdrawn claims, must be given in a parenthetical expression following the claim number using only one of the following seven status identifiers: (original), (currently amended), (canceled), (withdrawn), (new), **(previously presented) and (not entered)**. The text of all pending claims, **including withdrawn claims**, must be submitted each time any claim is amended. Canceled **and not entered** claims must be indicated by only the claim number and status, without presenting the text of the claims.
- (2) The text of all claims **being currently amended** must be presented in the claim listing with markings to indicate the changes that have been made relative to the immediate prior version. The changes in any amended claim must be shown by underlining (for added matter) or strikethrough (for deleted matter) with 2 exceptions: (1) for **deletion of five characters or fewer, double brackets may be used (e.g., [[error]])**; and (2) if **strikethrough cannot be easily perceived (e.g., deletion of the number "4" or certain punctuation marks)**, **double brackets must be used (e.g., [[4]])**. **As an alternative to using double brackets, however, extra portions of text may be included before and after text being deleted, all in strikethrough, followed by including and underlining the extra text with the desired change (e.g., number 4 as number 14 as)**. An accompanying clean version is not required and should not be presented. Only claims of the status "currently amended," and "withdrawn" that are being amended, may include markings.
- (3) The text of pending claims **not being currently amended, including withdrawn claims**, must be presented in the claim listing in clean version, i.e., without any markings. Any claim text presented in clean version will constitute an assertion that it has not been changed relative to the immediate prior version except to omit

## The United States Patent and Trademark Office has changed certain mailing addresses!

Effective May 1, 2003

Use the address provided in this flyer after May 1, 2003 for any correspondence with the United States Patent and Trademark Office (USPTO) in patent-related matters to organizations reporting to the Commissioner for Patents.

DO NOT USE the Washington DC 20231 and P.O. Box 2327 Arlington, VA 22202 addresses after May 1, 2003 for any correspondence with the USPTO even if these old addresses are indicated in the accompanying Office action or Notice or in any other action, notice, material, form, instruction or other information.

Correspondence in patent-related matters to organizations reporting to the Commissioner for Patents must now be addressed to:



Commissioner for Patents  
P.O. Box 1450  
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### Special Mail Stop designations to replace Special Box designations

Also effective May 1, 2003, the USPTO is changing the special Box designations for Patents and Trademarks to corresponding Mail Stop designations (e.g., "Box 4" will now be "Mail Stop 4").

For further information, see *Correspondence with the United States Patent and Trademark Office*, 68 Fed. Reg. 14332 (March 25, 2003). A copy of the *Federal Register* notice is available on the USPTO's web site at <http://www.uspto.gov/web/menu/current.html#register>

A listing of specific USPTO mailing addresses (See Patents – specific) will be available on the USPTO's web site on April 15, 2003 at <http://www.uspto.gov/main/contacts.htm>.

Persons filing correspondence with the Office should check the rules of practice, the Official Gazette, or the Office's Internet Web site ([www.uspto.gov](http://www.uspto.gov)) to determine the appropriate address and Mail Stop Designation (if applicable) for all correspondence being delivered to the USPTO via the United States Postal Service (USPS).

Questions regarding the content of this flyer should be directed to the Inventor Assistance Center at (703) 308-4357 or toll-free at 1-800-786-9199.

### ALLOWED CLAIMS

For U.S. Patent Application No. 10/275,784

Filed November 7, 2002

Entitled: Method and System for the Transformation  
of Digital Print Data Streams and Corresponding Printer and Printer Server

Inventor: Thomas Krautter

1. A method for the transformation of digital print data streams, in which
  - (i) an input print data stream (2) is read in,
  - (ii) this is analyzed by means of a parser (4) for graphically representable objects (5) and is split up into these graphically representable objects (5), and
  - (iii) the graphically representable objects (5) are stored in a memory (6) in an object-oriented format, and
  - (iv) the graphically representable objects (5) stored in the memory (6) in an objected-oriented format are transformed into a format for the control of an output device (9), preferably a printer, and
  - (v) the objects thus transformed are combined into an output print data stream (10) and are output,characterized in that graphically representable objects (5, 5a) are stored in the memory (6) in an objected-oriented format, to which at least one stored script is assigned, which is executed in the cases defined in the script.
2. The method as claimed in claim 1, characterized in that the graphically representable objects (5, 5a) are combined into super-objects of higher complexity before being stored in the memory (6).
3. The method as claimed in claim 1, characterized in that feedback messages (11) referring to the output print data stream (10) output are read in and are analyzed for error messages which indicate that the output device (9), preferably the printer, has recognized a transformed graphic object in the output print data stream (10) which cannot be output by said printer, this graphic object is then split up into part objects of lower complexity, and

the part objects thus obtained, in the format for the control of the output device (9), are slipped into the output print data stream (10) which is output to the output device (9).

4. The method as claimed in claim 1, characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which controls external devices, preferably archiving devices, folding systems, enveloping systems or security equipment.

5. The method as claimed in claim 1, characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically receives data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

6. The method as claimed in claim 5, characterized in that the script (5a) automatically receiving data also requests this data automatically.

7. The method as claimed in claim 1, characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically sends data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

8. The method as claimed in claim 7, characterized in that the script (5a) sends the graphic object (5) associated with itself to a receiver.

9. The method as claimed in claim 8, characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated with it, and forwards the graphic object (5) associated with itself to a receiver together with the data requested, received and reassigned by itself.

10. The method as claimed in claim 5, characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated with itself, and prints out the graphic object (5) assigned to itself together with the data requested, received and reassigned by itself.

11. The method as claimed in claim 1, characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which is executed in the case of the output of the object (5) defined in the script (5a).

12. The method as claimed in claim 1, characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a), at least one case relating to the execution of the script (5a) being defined in the respective script (5a), and occurring automatically, preferably without further influence from outside.

13. The method as claimed in claim 12, characterized in that the automatically occurring case, defined at least in the respective script 5(a), relating to the execution of the script (5a) is configured as a timer, that is to say as a case which occurs automatically as a result of expiry of time.

14. The method as claimed in claim 13, characterized in that the timer operates cyclically, that is to say it starts itself again upon expiry.

15. The method as claimed in claim 1, characterized in that Java Script is used as a formal language for the scripts.

16. The method as claimed in claim 1, characterized in that the graphically representable objects (5) stored in the memory (6) in an object-oriented format, preferably also script objects (5a), preferably before they are output in the output print

data stream (10), are kept ready by an application interface (7) to be read out, to be changed, to be deleted or to have new objects (5) appended.

17. A system for the transformation of digital print data streams comprising at least one data processing unit having at least one memory and at least one communications interface, characterized in that the data processing unit is programmed in such a way that it operates in accordance with the method as claimed in claim 1.

18. The system for the transformation of digital print data streams as claimed in claim 17, the system also has an operating station with display means (8) and input means, which makes it possible for the graphically representable objects (5) stored in the memory (6) of the data processing unit in an object-oriented format, preferably also script objects (5a), to be read out via the application interface (7), to be changed, to be deleted or to be appended, preferably before they are output in the output print data stream (10).

19. The system for the transformation of digital print data streams as claimed in claim 17, wherein the data processing unit permits respectively stored objects, preferably also Java Script objects (5a) themselves, to be read out graphically, to be changed, to be deleted or to be appended, these graphically performed manipulations if necessary being transformed automatically into Java Script objects (5a).

20. A printer, characterized in that it has a system for the transformation of digital print data streams as claimed in claim 17.

21. A printer server, characterized in that it has a system for the transformation of digital print data streams as claimed in claim 17.

22. A computer-readable medium having stored thereon instructions to cause a processor to execute a method, the method comprising:

- (i) an input print data stream (2) is read in,



- (ii) this is analyzed by means of a parser (4) for graphically representable objects (5) and is split up into these graphically representable objects (5), and
- (iii) the graphically representable objects (5) are stored in a memory (6) in an object-oriented format,
- (iv) the graphically representable objects (5) stored in the memory (6) in an object-oriented format are transformed into a format for the control of an output device (9), preferably a printer, and
- (v) the objects thus transformed are combined into an output print data stream (10) and are output,

characterized in that graphically representable objects (5, 5a) are stored in the memory (6) in an object-oriented format, to which at least one stored script is assigned, which is executed in the cases defined in the script.

23. The computer-readable medium as claimed in claim 22, the method characterized in that the graphically representable objects (5, 5a) are combined into super-objects of higher complexity before being stored in the memory (6).

24. The computer-readable medium as claimed in claim 22, the method characterized in that  
feedback messages (11) referring to the output print data stream (10) output are read in and are analyzed for error messages which indicate that the output device (9), preferably the printer, has recognized a transformed graphic object in the output print data stream (10) which cannot be output by said printer,  
this graphic object is then split up into part objects of lower complexity, and  
the part objects thus obtained, in the format for the control of the output device (9), are slipped into the output print data stream (10) which is output to the output device (9).

25. The computer-readable medium as claimed in claim 22, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the

object-oriented format is assigned at least one script (5a) which controls external devices, preferably archiving devices, folding systems, enveloping systems or security equipment.

26. The computer-readable medium as claimed in claim 22, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically receives data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

27. The computer-readable medium as claimed in claim 26, the method characterized in that the script (5a) automatically receiving data also requests this data automatically.

28. The computer-readable medium as claimed in claim 22, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically sends data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

29. The computer-readable medium as claimed in claim 28, the method characterized in that the script (5a) sends the graphic object (5) associated with itself to a receiver.

30. The computer-readable medium as claimed in claim 29, the method characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated with it, and forwards the graphic object (5) associated with itself to a receiver together with the data requested, received and reassigned by itself.

31. The computer-readable medium as claimed in claim 26, the method characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5)

associated with itself, and prints out the graphic object (5) assigned to itself together with the data requested, received and reassigned by itself.

32. The computer-readable medium as claimed in claim 22, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which is executed in the case of the output of the object (5) defined in the script (5a).

33. The computer-readable medium as claimed in claim 22, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a), at least one case relating to the execution of the script (5a) being defined in the respective script (5a), and occurring automatically, preferably without further influence from outside.

34. The computer-readable medium as claimed in claim 33, the method characterized in that the automatically occurring case, defined at least in the respective script (5a), relating to the execution of the script (5a) is configured as a timer, that is to say as a case which occurs automatically as a result of expiry of time.

35. The computer-readable medium as claimed in claim 34, the method characterized in that the timer operates cyclically, that is to say it starts itself again upon expiry.

36. The computer-readable medium as claimed in claim 22, the method characterized in that Java Script is used as a formal language for the scripts.

37. The computer-readable medium as claimed in claim 22, the method characterized in that the graphically representable objects (5) stored in the memory (6) in an object-oriented format, preferably also script objects (5a), preferably before they are output in the output print data stream (10), are kept ready by an application interface (7) to be read out, to be changed, to be deleted or to have new objects (5) appended.

38. A computer data signal embodied in a carrier wave and representing sequences of instructions which, when executed by a processor, cause the processor to perform a method, the method comprising:

- (i) an input print data stream (2) is read in,
- (ii) this is analyzed by means of a parser (4) for graphically representable objects (5) and is split up into these graphically representable objects (5), and
- (iii) the graphically representable objects (5) are stored in a memory (6) in an object-oriented format,
- (iv) the graphically representable objects (5) stored in the memory (6) in an object-oriented format are transformed into a format for the control of an output device (9), preferably a printer, and
- (v) the objects thus transformed are combined into an output print data stream (10) and are output,

characterized in that graphically representable objects (5, 5a) are stored in the memory (6) in an object-oriented format, to which at least one stored script is assigned, which is executed in the cases defined in the script.

39. The computer data signal as claimed in claim 38, the method characterized in that the graphically representable objects (5, 5a) are combined into super-objects of higher complexity before being stored in the memory (6).

40. The computer data signal as claimed in claim 38, the method characterized in that feedback messages (11) referring to the output print data stream (10) output are read in and are analyzed for error messages which indicate that the output device (9), preferably the printer, has recognized a transformed graphic object in the output print data stream (10) which cannot be output by said printer, this graphic object is then split up into part objects of lower complexity, and

the part objects thus obtained, in the format for the control of the output device (9), are slipped into the output print data stream (10) which is output to the output device (9).

41. The computer data signal as claimed in claim 38, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which controls external devices, preferably archiving devices, folding systems, enveloping systems or security equipment.

42. The computer data signal as claimed in claim 38, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically receives data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

43. The computer data signal as claimed in claim 42, the method characterized in that the script (5a) automatically receiving data also requests this data automatically.

44. The computer data signal as claimed in claim 38, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which automatically sends data, preferably data organized in an object-oriented manner, image data, text data or data from web pages from the Internet, data from XML documents or else e-mails.

45. The computer data signal as claimed in claim 44, the method characterized in that the script (5a) sends the graphic object (5) associated with itself to a receiver.

46. The computer data signal as claimed in claim 45, the method characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated

with it, and forwards the graphic object (5) associated with itself to a receiver together with the data requested, received and reassigned by itself.

47. The computer data signal as claimed in claim 42, the method characterized in that the script (5a) in turn reassigns the data received by it to the graphic object (5) associated with itself, and prints out the graphic object (5) assigned to itself together with the data requested, received and reassigned by itself.

48. The computer data signal as claimed in claim 38, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a) which is executed in the case of the output of the object (5) defined in the script (5a).

49. The computer data signal as claimed in claim 38, the method characterized in that at least one graphically representable object (5) stored in the memory (6) in the object-oriented format is assigned at least one script (5a), at least one case relating to the execution of the script (5a) being defined in the respective script (5a), and occurring automatically, preferably without further influence from outside.

50. The computer data signal as claimed in claim 49, the method characterized in that the automatically occurring case, defined at least in the respective script (5a), relating to the execution of the script (5a) is configured as a timer, that is to say as a case which occurs automatically as a result of expiry of time.

51. The computer data signal as claimed in claim 50, the method characterized in that the timer operates cyclically, that is to say it starts itself again upon expiry.

52. The computer data signal as claimed in claim 38, the method characterized in that Java Script is used as a formal language for the scripts.

53. The computer data signal as claimed in claim 38, the method characterized in that the graphically representable objects (5) stored in the memory (6) in an object-oriented format, preferably also script objects (5a), preferably before they are output in the output print data stream (10), are kept ready by an application interface (7) to be read out, to be changed, to be deleted or to have new objects (5) appended.



53. The computer data signal as claimed in claim 38, the method characterized in that the graphically representable objects (5) stored in the memory (6) in an object-oriented format, preferably also script objects (5a), preferably before they are output in the output print data stream (10), are kept ready by an application interface (7) to be read out, to be changed, to be deleted or to have new objects (5) appended.



SEPTEMBER 08, 2003

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RECORDATION DATE: 11/07/2002

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BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

KRAUTTER, THOMAS

DOC DATE: 10/05/2002

ASSIGNEE:

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SERIAL NUMBER: 10275784  
PATENT NUMBER:

FILING DATE: 11/07/2002  
ISSUE DATE:

DATES ENTERED \_\_\_\_\_

No Action

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ASSIGNMENT DIVISION  
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To the Honorable Commissioner of Pa		102419756		I original documents or copy thereof.	
1. Name of conveying party(ies): Thomas Krautter  11-7-02		2. Name and address of receiving party(ies) Name: CCP SYSTEMS AG Internal Address:  Street Address: Hellmuth-Hirth-Str. 9 City: Stuttgart Country: Germany Zip: 70435 Additional Name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____ Execution Date: <u>October 5, 2002</u>					
4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: <u>October 5, 2002</u> A. Patent Application No.(s) <u>10275784</u> B. Patent No.(s) Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
5. Name and address of party to whom correspondence concerning this document should be mailed: Name: Aaron Winingar, Esq. Internal Address: Squire, Sanders & Dempsey, L.L.P.  (11/14/2002 ENAJARRO 00000132 050150 10275784) 04 FC:8021 40.00 CH Street Address: 600 Hansen Way City: Palo Alto State: CA Zip: 94304-1043		6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 3.41) ..... \$ 40.00 <input type="checkbox"/> Enclosed <input checked="" type="checkbox"/> Authorized to be charged to deposit account 8. Deposit account number: 05-0150 (Attach duplicate copy of this page if paying by deposit account)			
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9. Statement and signature.  To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. _____ Name of Person Signing  _____ Signature November 7, 2002 Date  Total number of pages including cover sheet, attachments, and documents: 3					

## ASSIGNMENT

(1-4) *Insert Name(s) of Inventor(s)*(1) Thomas Krautter

(3) \_\_\_\_\_

(2) \_\_\_\_\_

(4) \_\_\_\_\_

For good and valuable consideration receipt of which is hereby acknowledged, the undersigned agree(s) to assign, and hereby do(es) assign, transfer and set over to:

(9) *Insert name of Assignee*(9) CCP SYSTEMS AG(10) *Insert state of incorporation of Assignee*(10) Germany(11) *Insert address of Assignee*(11) of Hellmuth-Hirth-Str. 9, 70435 Stuttgart, Germany

(hereinafter designated as the Assignee) the entire worldwide right, title, interest, a patent applications and patents for every country, including divisions, reissues, continuations and all other extensions, rights and priorities in the invention known and subject matter contained in

(12) *Insert Identification of Invention, such as Title, Case Number or Foreign Application Number*(12) Method And System For The Transformation Of Digital Print Data Stream And Corresponding Printer And Printer Server

for which the undersigned has (have) executed an application for patent in United States of America

(13) *Insert Date of Signing of Application*(13) on October 5, 2002

1) The undersigned agree(s) to execute all papers necessary in connection with the application and any continuing division applications thereof and also to execute separate assignments in connection with such applications as the Assignee deem necessary or expedient.

2) The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation or division thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.

3) The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreement.

4) The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

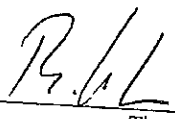
5) The undersigned hereby authorize(s) and request(s) the Commissioner for Patents and the duly constituted authorities of foreign countries to issue any and all Letters Patents resulting from said application or any division or division: continuing or reissue applications thereof to the said Assignee, its successors and assigns, as Assignee of the entire right, title and interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he (they have) not executed and will not execute, any agreement in conflict herewith.

6) *The undersigned hereby grant(s)*

Marc A. Sockol, Reg. No. 40,823; Vidya R. Bhakar, Reg. No. 42,323; Daryl C. Josephson, Reg. No. 37,365; Cameron Kerrigan, Reg. No. 44,826; David B. Abel, Reg. No. 32,394; Nathan Lane, Reg. No. 43,738; Michael Lechter, Reg. No. 27,350; David Koo, Reg. No. 46,839; David Rogers, Reg. No. 38,287; William Bachand, Reg. No. 34,980; Aaron Winger, Reg. No. 45,229; Paul A. Durdik, Reg. No. 37,819; Paul J. Meyer 47,791; Reg. No. 48,821; Victor Repkin, Reg. No. 45,039; Victoria L. Nicholson, Reg. No. 47,823; and Fariba Sirjani, Reg. No. 47,947.

*the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.*

Date: 5.10.2002

  
Thomas Krautter

# EXHIBIT C

**WSCA/NASPO IBM SYSTEM p SOFTWARE****Update as of June 23, 2009****Price files maintained by Michelly Paula Mantovani**

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USING EITHER, TYPE THE PRODUCT NUMBER AND THE SCREEN WILL SCROLL TO THE APPROPRIATE SECTION IN THE DOCUMENT.

Under the WSCA/NASPO contract, IBM's software is expected to be sold with hardware.

Certain exceptions such as the addition of staff or a roll out would allow for separate purchases.

Questions regarding the policy of linking hardware with software sale can be directed to the WSCA/NASPO administrator in Minnesota, Bernie Kopischke at [Bernie.Kopischke@state.mn.us](mailto:Bernie.Kopischke@state.mn.us)

Prices contained herein are subject to change and do not contain any State & Local taxes, if applicable for your area. Please consult your IBM representative for current prices or to verify tax implications or exemptions

Discount rates within product families may vary and some products eligible for sale within the WSCA/NASPO product guidelines may have a zero discount

Prices based on configuration.

Prices are subject to change without notice.

See your IBM representative for exact configuration/pricng.

**TITLE 5639-JSI JSCRIBE INTELLIGENT SOFTWARE V1.2****MDL/**

<b>FEAT</b>	<b>FEATURE DESCRIPTION</b>	<b>LIST PRICE</b>	<b>WSCA Discount</b>	<b>WSCA Price</b>
JSI	JSCRIBE INTELLIGENT SOFTWARE	\$0.00	0.15	\$0.00
3746	JSCRIBE 1-499 USERS W/1Y SWM	\$8,000.00	0.15	\$6,800.00
3747	JSCRIBE 500-1000 W/1 YR SWMA	\$12,000.00	0.15	\$10,200.00
3748	JSCRIBE 1001-2499 W/1 Y SWMA	\$18,000.00	0.15	\$15,300.00
3749	JSCRIBE 2500+ W/ 1 Y SWMA	\$27,000.00	0.15	\$22,950.00

**TITLE 5639-NES SYSTEM P5 NETWORK E-MAIL SECURITY EXPRESS S****MDL/**

<b>FEAT</b>	<b>FEATURE DESCRIPTION</b>	<b>LIST PRICE</b>	<b>WSCA Discount</b>	<b>WSCA Price</b>
NES	IBM SECURE EMAIL EXP SOL SYS P	\$0.00	0.15	\$0.00
3970	1-250 USER W 1Y SUB+SPT	\$5.00	0.15	\$4.25
3971	251-500 USER W 1YR SUB+SPT	\$4.00	0.15	\$3.40
3972	501-1000 USER MPP 1Y SUB+SPT	\$3.00	0.15	\$2.55
3973	>1000 USER W 1Y SUB+SPT	\$2.00	0.15	\$1.70